

In re LeRoy G. Hagenbuch
Serial No. 07/964,126

paragraph 17 in the Final Office Action that applicant's argument concerning haul cycles "appears to read more into these words than their literal meaning." In this connection, Mr. Conklin proposed filing the present Rule 62 continuation application in order to amend the claims to incorporate the definition of "haul cycle" set forth in the specification if Examiner Dixon was amenable to such an approach as a way to overcome the rejection. Mr. Dixon indicated that the approach proposed by Mr. Conklin was in accordance with the spirit of the remarks in paragraph 17 of the Office Action and should serve to advance prosecution of any continuation application. Therefore, this Amendment is intended to present amended claims incorporating a definition for the phrase "haul cycle" that appears at page 78 of the specification, beginning at line 31.

As applicant understands the rejection set forth in the Final Office Action of the '179 parent application, the phrase "haul cycle" in the claims was given its broadest reasonable interpretation. In re Prater, 162 U.S.P.Q. 541, 550 (CCPA 1969). By this Amendment, applicant has incorporated into each independent claim the definition of the phrase "haul cycle" set forth in the specification as originally filed. The following remarks re-assert applicant's arguments distinguishing the prior art from the invention as now claimed.

Applicant has amended the claims in this Amendment in order to more precisely focus on the on-board processing of information indicative of the performance of a haulage vehicle during its execution of "haul cycles" in its working environment. In applicant's invention, a processor on-board a vehicle receives load data from a weight sensing device and also receives data from a second source, which has a status that varies over the course of

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a haul cycle as set forth in amended claim 1. By monitoring parameters that vary over a "haul cycle," applicant has developed a system that accurately monitors the work done by a haulage vehicle. With this accurate information in hand, a historical record is created by accumulating the information, and a vehicle management system then uses the data base to evaluate the performance of the vehicle.

As amended, applicant's claims call for a processor on-board the vehicle to receive load data and data from some other parameter that varies over a "haul cycle." Claim 1 is generic, whereas remaining original independent claims 24, 27 and 29 each recite a specific variable parameter in addition to load. The data collected by the processor from these varying parameters is processed to provide a set of haul cycle data that is accumulated in a historical record for the purpose of accurately monitoring the work done by the haulage vehicle. None of the patents of record suggests accumulating raw data from parameters that vary over a "haul cycle," processing that data and providing a unique set of processed data that quantifies the "haul cycles" in a predetermined manner as claimed for facilitating control and analysis of the vehicle in its working environment. Instead, each of the primary references (Gamble, Miller and Griffiths) in the Final Office Action of the '179 application merely accumulates raw weight data in a storage medium without processing the data in order to provide "haul cycle" information that can be analyzed and used to control the vehicle in its working environment.

Furthermore, the secondary reference, the Juhasz et al. patent, merely teaches that various engine parameters in a haulage vehicle may be monitored and downloaded to a remote site. There is nothing in the teachings of the

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Juhasz et al. patent that suggests monitoring parameters related to the "haul cycles" of the vehicle, generating unique data from those parameters and accumulating that unique data in a historical record for use in analyzing and controlling the movement of the vehicle in its working environment. Like the system disclosed in the Miller patent, the on-board processor in the Juhasz et al. patent merely compares data from engine performance parameters with threshold values for the purpose of ensuring the vehicle is operating within a safe range of values for each parameter.

In the Juhasz et al. patent, each of the parameters sensed and recorded by the on-board processing system is indicative of either an engine parameter or of general vehicle information such as total miles traveled and speed. None of the measured parameters varies in accordance with the "haul cycles" of the vehicle as claimed in each of applicant's claims. Specifically, the Examiner's attention is directed to columns 5 and 6 of the Juhasz et al. patent. Tables I and II provide representative examples of the type of parameters measured by the system and the type of reports generated from these measured parameters. These tables clearly indicate that the type of data measured and the information accumulated has no relation at all to the "haul cycles" of the vehicle. Similarly, Table III in column 7 lists many different parameters measured by the invention in the Juhasz et al. patent, but none of these parameters provides any information concerning the "haul cycles" of the vehicle. In contrast to the type of parameters measured and recorded in the Juhasz et al. patent, applicant's claimed invention provides for sensing of parameters that vary during the "haul cycles" of the vehicle. The electronic processor on-board the vehicle

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processes this data and provides data "which quantifies a segment of each of the haul cycles." This feature of processing on-board haul cycle-related parameters in order to provide data that quantifies haul cycle segments is a feature of the claimed invention that is not found in nor suggested by any of the cited references.

Finally, the references applied in the Final Office Action in the '179 application fail to suggest specific features set forth in many of the claims. For example, claim 22 expressly recites a second and third means as including devices for measuring distance traveled and for detecting a forward-neutral-reverse status of a drive train associated with the haulage vehicle. A first means detects the loading of the vehicle. There is not the remotest suggestion of this a combination of means-plus-function structure in any of the references.

Applicant acknowledges with appreciation the brief interview granted by Examiner Zanelli on March 26, 1993. The interview directly followed an interview with Examiner Zanelli concerning a then outstanding Office Action in reexamination control No. 90/002,704, which is a reexamination proceeding for U.S. Patent No. 4,839,835. The application upon which the '835 patent is based is one of the parent applications of this present application. In accordance with 37 C.F.R. § 1.133(b), the following is a complete written statement of the reasons presented at the interview as warranting favorable action. As the Examiner Interview Summary Record (paper No. 21) indicates, the inventor Mr. Hagenbuch and one of his attorneys Mr. Conklin attended the interview with Examiner Zanelli. The interview was brief and involved only a short presentation of the amendment to the claims made herein. No specific claim was discussed nor were any of

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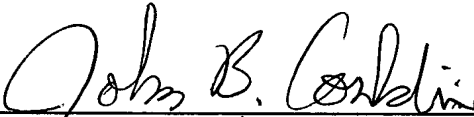
the prior art references discussed. No agreement regarding the claims was requested and, as the Examiner Interview Summary Record indicates, no agreement was reached.

Conclusion

In view of the above amendments and remarks, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (312) 616-5600.

Signed at Chicago, in the County of Cook and State of Illinois this 2nd day of August, 1993.



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